



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,058

12/31/2007

Tadashi Fujii

FUJII10

4631

1444 7590 11/13/2009
BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

SLAWSKI, BRIAN R

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

11/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,058	Applicant(s) FUJII ET AL.	
	Examiner BRIAN R. SLAWSKI	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 7-12,17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1791

**PROCESS FOR PRODUCING UNSTRETCHED FILM, PROCESS FOR PRODUCING
RESIN-COATED METAL SHEET, AND APPARATUS FOR PRODUCING
UNSTRETCHED FILM**

Detailed Action

1. Applicant's request for reconsideration filed on July 13, 2009, was received. Claims 1-3 were amended. Claims 5, 15, and 16 were cancelled. A translation of the foreign priority document, JP 2004-055684, was submitted.
2. The text of those sections of Title 35, U.S. Code, not included in this Action can be found in the Office Action issued on April 13, 2009.

Claim Objections

3. The objection to claim 2 is withdrawn because this claim has been amended to correct the typographical error therein.

Claim Rejections—35 USC §112

4. The rejections of claim 2 and 3 under 35 U.S.C. 112, second paragraph, are maintained. While Applicant has amended claim 2 to provide antecedent basis for "a resin melt supply ducts" [*sic*] to which the thermoplastic resin and other thermoplastic resin are fed, and to clarify that it is shapes of these resins that are widened through a manifold, claim 2 still has no antecedent basis for "the die lip" (line 13 of claim 2). Similarly, claim 3 as amended gives antecedent basis to "a feed block," but gives none to "the resin melt supply duct to which the thermoplastic resin is fed" (line 3 of claim 3).

Art Unit: 1791

(While this duct is properly introduced in claim 2, it is not previously mentioned in claim 3 or claim 3's base, claim 1.)

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 as amended recites that the difference in the viscosity between the two thermoplastic resins is "at least 3000 poises at a shear rate of from 20 to 500 sec⁻¹" (lines 9-10 of claim 1). The instant specification provides support only for the condition in which the resins differ in viscosity by *at most* 3000 poises at a shear rate of from 20 to 500 sec⁻¹ (see, e.g., p. 7, LL. 19-23 of the instant specification), as was claimed in withdrawn claims 9 and 17 and cancelled claims 5 and 15, and as is noted in the accompanying arguments. For the purpose of compact prosecution, claim 1 is interpreted here as reciting, "...the difference in the viscosity between the thermoplastic resin and the other thermoplastic resin is at most 3000 poises at a shear rate of from 20 to 500 sec⁻¹...."

Claim Rejections—35 USC §103

6. Claims 1-4, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kegasawa et al. (US 2004/0108621; "Kegasawa '621") in view of Kegasawa et al. (US 2002/0112813, newly cited: "Kegasawa '813").

Art Unit: 1791

Regarding claim 1, Kegasawa '621 teach a process for producing an unstretched film by separately heating and melting first and second thermoplastic resins A and B, feeding the first resin A to a central duct 32 in a feed block 13, leading the second resin B via branch ducts 34 in the feed block to both edges of the resin A, then ejecting both resins through an extrusion T-die 12, which extrudes both resins onto a casting roll 14 such that the resin B coexists on both sides of the resin A, and cutting off and recycling the film's selvages formed by resin B (Abstract; Fig. 1, 2a-c, 4, 6; [0002, 0008, 0016, 0037-0039, 0044]).

While Kegasawa '621 do not explicitly teach the viscosities of the resins, they teach that the larger the difference in the melt flow rates (which are inversely proportional to viscosity) between the resins A and B, the greater the resins' tendency is to separate in the extruded film, and that the resins should therefore have a ratio of melt flow rates preferably between 0.5 and 2 [0011]. Further, Kegasawa '813 teach a similar process in which first and second thermoplastic resins 11A and 11B are fed to a die 12 and extruded into a film in which the second resin 11B flanks the central first resin 11A on both sides (Fig. 1, 2, 3a; [0038-0039]). Kegasawa '813 teach that the second resin is preferably chosen to have a viscosity somewhat more than that of the central first resin, in order to suppress neck-in (where the extruded film narrows across its width and thickens on its lateral edges) and film shake (where the film's width fluctuates during extrusion), without the resins' viscosities differing so much as to cause film separation (Abstract; [0004-0005, 0015-0016, 0044]). Hence, it would have been obvious to one of ordinary skill in the art to choose the resin A of Kegasawa '621 to have viscosity below

Art Unit: 1791

that of B to discourage neck-in and film shake, without choosing viscosities that differ by more than 3000 poises at a shear rate from 20 to 500 sec^{-1} in order to avoid film separation, in light of the combined teachings of Kegasawa '621 and Kegasawa '813.

Regarding claim 2, while Kegasawa '621 do not show the source of the resins A and B, they teach that resins A and B differ and are fed by separate resin melt supply ducts to the feed block 13 (see Fig. 12; [0011, 0050, 0052]), so that the resins A and B must inherently be heated and melted separately in different extruders and fed by the melt supply ducts connected to the extruders. The feed block 13 has a central duct 32 for the resin A and holes formed on both sides thereof, the holes being connected to the branch ducts 34 through which resin B is fed (Fig. 2a, 2c, 12; [0039]). The shapes of the resins are then widened through a manifold 28 connected to the feed block 13 and extruded through the extrusion T-die's lip 30 onto the casting roll 14 such that the resin B coexists on both sides of the resin A (Fig. 1, 2a, 2b; [0039, 0041, 0044]).

Regarding claims 3 and 13, Kegasawa '621 teach a feed block 13 in which the cross sections of the central duct 32 carrying the first resin A and of the holes formed by the branch ducts 34 feeding the second resin B are rectangular (Fig. 2a, 2c, 3, 4, 12; [0025-0026, 0039]). (Note that the commonly accepted definition of the term "rectangular" is "Having one or more right angles." (The American Heritage Dictionary of the English Language, 4th ed., defn. 2).

Regarding claims 4 and 14, while Kegasawa '621 do not explicitly state their reason for coextruding the second resin B at the edges of resin A's film, then cutting off and recycling these edges, Kegasawa '813 explain that extruded films tend to thicken at

Art Unit: 1791

their lateral edges by the neck-in phenomenon [0004], while Applicant similarly discloses in paragraph [0002] of the instant specification that this edge-thickening is an inherent result of extruding films of highly viscous thermoplastic resin through a T-die. Hence the edge portions formed by resin B in Kegasawa '621 must intrinsically be thicker than the center portion formed by resin A.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kegasawa '621 and Kegasawa '813 as applied to claims 1-4, 13, and 14 above, and further in view of Thompson (US 4,272,312), for the same reasons presented in paragraph 9 of the Office Action issued on April 13, 2009; Applicant is referred to the same for a complete discussion of this rejection.

Response to Arguments

8. Applicant's arguments filed on July 13, 2009, have been fully considered but they are not persuasive. Applicant argues that Kegasawa '621 teach coextruding the thermoplastic resins A and B such that they partially overlap each other, as depicted in Figs. 3 and 5, in contrast with the process of Applicant's invention, which limits the difference in the two resins' viscosities in order to prevent the resins from overlapping in the extruded film. However, Kegasawa '621 also teach that the melt flow rates (inversely proportional to viscosity) of the resins A and B should be similar, with a ratio of the two melt flow rates preferably in the range of 0.5 to 2, so that it would have been obvious to one of ordinary skill in the art to choose the resins A and B of Kegasawa '621

Art Unit: 1791

to have viscosities differing by no more than 3000 poises at a shear rate of from 20 to 500 sec^{-1} , in accordance with claim 1. The examiner maintains that no distinctions between the instant invention and the process of Kegasawa '621 have been articulated in the present claims. Applicant further argues with respect to claim 6 that because the resins in the film produced by the inventive process do not overlap, there is nothing to be cut off from the extruded film, in contrast with the process of Kegasawa '621. The examiner points out that Applicant's disclosure explicitly describes cutting off the edges of the extruded film (see the Abstract, Fig. 7, and paragraph [0007] of the instant specification), as is recited in the instant claim 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1791

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. SLAWSKI whose telephone number is (571)270-3855. The examiner can normally be reached on Monday to Thursday, 7:30 a.m. to 5:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino, can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 1791

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian R. Slawski/
Examiner, Art Unit 1791

B.R.S.

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791